

**Architectural investigation of the old Bluff Sub-Station (Wests)
on the Remainder of Subdivision 3 of Lot 686 Bluff**



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Contents of report:

The legal context of this investigation is the KwaZulu-Natal Heritage Act No 4 of 2008 which protects structures and urban landscapes primarily over the age of 60 years, with respect to alteration, addition and demolition

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1. Introduction

Debbie Whelan of Archaic Consulting was contacted by Mr Iain Geldart, Managing Director of Bulk Connections who owns a long-term lease on the land, with regard to an historic structure, the Bluff Sub-Station, forming part of the industrial coal terminal site. Expansions and capital development of this wharf, the largest and busiest private wharf in the harbour, have eventually found their way across the railway tracks situated to the south-east, and are now impacting on this building, which is isolated from the main wharf, and currently situated against the Bluff bush in a sea of coal mud. (see figs 1 and 2) Currently, and for the last two decades, the substation is empty, harbouring pigeons, and occasional stowaways who make it to this end of the train line to attempt escape. Geographically the Bluff Sub-station is bounded by the end of the rail line to the north west, and beyond that the quay, the harbour mouth to the north, another railway line and the Bluff Military base, consisting of bush in this area, to the south-east.

The intention of the leaseholders is to clean up the environs in this south-eastern area, paving most of this land as it is used by tugs and trailers, and implementing an automatic stacking system to reduce the storage area.

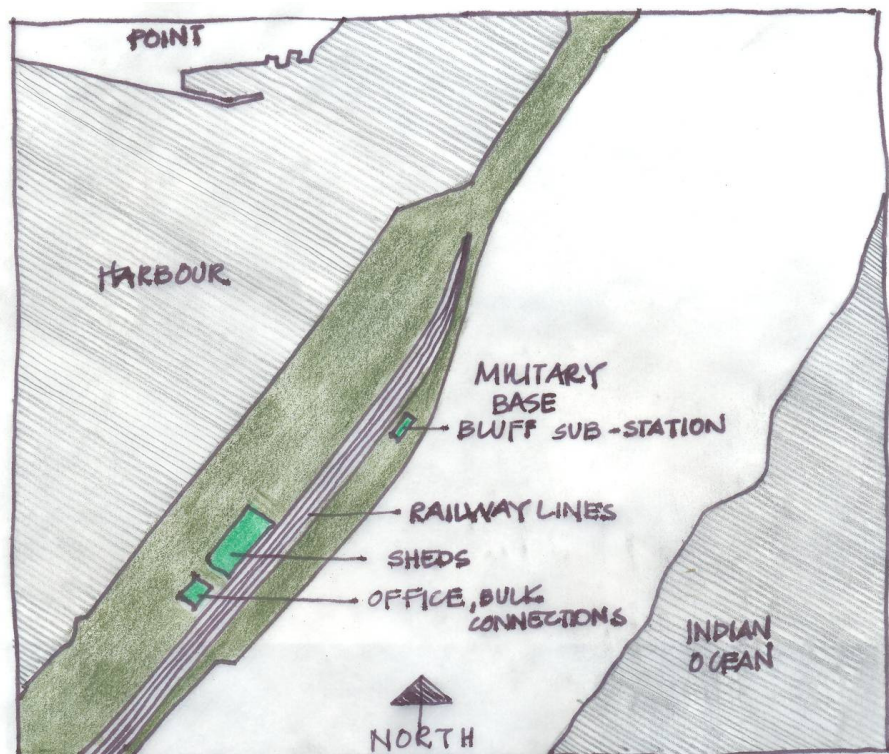


Fig 1: Showing structures on site and the geographical context



Fig 2: Google Earth figure showing the land usage

2. Methodology

A site inspection was carried out on 14th October 2009, conducted by Mr Iain Geldart. It is to be noted that this is in a high security area, and not generally accessible by members of the public.

The information from the site inspection was followed up by inspection of the 1937 aerial photograph, 117-B 58_54250 which shows the structure amid a number of other, similar structures which are long demolished and formed Wests Railway Station and its associated buildings such as ablution blocks and the station-master's house. A search was also conducted in the Provincial Archives Repository which gave a more concrete idea as to the date of construction and the reason for its existence. A plan drawn by the Natal Harbour Department provided by Mr Geldart notes that this structure was known as the 'Bluff Sub-Station for Electric Power.' A number of annotations on the plan forming Appendix II confuse its provenance, but a number DCTC 0029/08 suggests the date of original construction, in addition to evidence from the Provincial Archives Repository pointing to the building as being over a century old.

3. History of the structure

Mr Geldart noted that the Bluff Sub-Station was constructed for the housing of mercury arc-rectifiers and transformers, which around twenty years ago were handed over to the then Durban City Council for use in the proposed tram system on the Point. This means that the original purpose of the building has been removed, and that it is practically empty.

The Sub-Station was constructed by the Natal Harbour Department in 1907. Prior to this, in 1905, file number II/I/81 HDE257B/1905 notes that 'Government requires light and power for her Railways, in the Workshops, various offices "scattered over a large area", on her wharves, wharf sheds, both at the Point and Bluff.' Its situation at the head of the bay was strategic, meaning that all water was freely available. Its intention was to convert down power by means of a motor generator from 10 000 volts alternating to 500 volt direct current, sufficient to drive the cranes. The electrical apparatus was as follows:

1. 'Static transformers to step down the feeder pressure of about 2000 volts from the Railway Station to 200 volts for distribution for lighting purposes.
2. A 500 volt direct current distributing switchboard for the motors, connected to the feeder from the Railway Station, and to deal with the Arc lighting without alteration to the existing mains (four circuits at present arranged of 30 in series) the existing arc multi circuit machine in the Point Station might possibly be utilised.'

A series of plans provided by Mr. Geldart show conflicting information, as well as various extensions being carried out to the building at different times, with the most recent overhaul being in 1979. These form Appendices I and II. However, file number HDE 1325/1906 shows the original drawing as part of the tender documents, and from this it is possible to put together some of the story. HDE 1325/1906 is the building file, containing all the tender information for its construction, and notes that it was completed on the 8th of January 1907. It was constructed by T Midgley of Brand Road, and in the original tender was to cost some 875 pounds. There was urgency in getting it completed as the machinery and cranes were arriving in that November (1906). The original drawing placed with the tender document show a building with mild steel windows, a malthoid roof, and 5 semi-circular windows to the 'front' elevation, facing the Bay. There is also a note explaining the semi-circular windows facing away from the Bay which appear to have steel casement windows, (as noted elsewhere in this document) below the semi-circular ones. The building was originally 21m long, and a further 10m extended to the southern end. The northern end, too, appears to have had some extension as a lack of correlation between the earlier drawing and the 1979 version show. This is possibly explained to some degree by archival evidence which notes alterations made to the building in 1910.

II/I/145 (HDE 761/1910) notes the need for alterations to be made to the building, as the space was now limited, and it would appear that it was at this point that the ceiling of the 'office' and the 'test' rooms were replaced with a concrete floor, creating a storeroom above and increasing the length of some of the rails. It was felt opportune at this point (1910) to strip down and repaint the doors and the windows, and re-distemper the walls.

No archival evidence pointing towards its extension to the south has been uncovered, and the drawing in Appendix II shows this with a possible date of 1943. This has worked over the original drawing, extending it.

4. Analysis of the structure

The existing size of the Bluff Sub-Station is 31m long and 8.6m wide. It is of red brick construction, which has been fully rendered with plaster with ruled coursed jointing. Its corners are defined with raised plastered quoins. A series of high level semi-circular windows runs along the central part of the north- western and south eastern facades. At ground level, a number of blind windows, filled in recent years, are situated in the northern end on the north-western façade. (see Fig 10) Any corresponding windows on the south façade would have been closed up, in additions which were constructed on the south- eastern façade in 1979, (see appendix 1) to house ablutions. This addition is an insensitive accretion. At some point, the original malthoid roof was replaced by Big-Six Fibre Cement, as well as the 'whirly- bird' type ventilators which replaced the ridge top ventilators visible on the original drawings. This was also possibly carried out during the 1979 overhaul. Some of the fascias, guttering and rainwater goods are absent, or in disrepair. There are parts of the walls where the plaster has spalled, revealing the brick coursing. (see fig 4)

Entrance is through sliding panels on the north-east façade, situated three metres from the railway platform.



Fig 3: Showing the south western corner from the railway platform



Fig 4: Showing the distressed plaster on the north elevation



Fig 5: Northern elevation, showing the railway line close to the Bluff with additions on left



Fig 6: 1979 additions on the South-eastern corner- one can see the line of the (1943) addition, and the indistinct closing up of the extended casement windows



Fig 7: 1979 accretions on the north-eastern corner



Fig 8: Northern facade



Fig 9: Bluff Sub-station from the platform looking north



Fig 10: Showing blind windows in relation to the high level windows

Internally, the structure is abandoned. The main space of the building which housed the machines is a sea of mud and dead pigeons, and the old office and mess room are derelict. Light comes from above through polycarbonate sheeting, and some through the high level semi-circular windows. The internal photographs the extended casement windows, now filled in, below some of the high level windows. (see Fig 14 and 16) Gantries which carried machines are still in place, as are the original trusses. The condition of these trusses is unknown, and at face value they appear sound but much closer inspection for borer beetle and termites is possibly needed. The brickwork is generally in good condition.



Fig 11: showing floor in main machine room



Fig 12: inside of Mess room



Fig 13: entry from machine room into ablution additions



Fig 14: showing high level windows and gantries



Fig 15: showing machine room, with original timber trusses



Fig 16: gantry and high level windows facing the Bay

5. Recommendations

Bluff Sub-Station	local	Provincial	national	international
Architectural significance	medium	low	low	low
Technical significance	medium	low	low	low
Historical significance	low	low	low	low
Social significance	low	low	low	low
Scientific significance	low	low	low	low

The Bluff Sub-Station is a reasonable example of an industrial building from the period, with much of the original texture being removed with a series of additions and accretions, and, it is suspected, the replacement of the malthoid roof and the original ventilators. It is suspected that better examples lie across the harbour mouth on the Point. Also the Bluff Sub Station does not form part of an urban context, nor is a credible contributor to a contemporary industrial site. It is an isolated building, situated in between railway lines, and has lost all architectural context. All of its surrounding structures were demolished long ago. The possibilities of its access by the public are minimal, given that it is situated within a high security zone. This renders it complicated to reuse, and in some ways a bit of a white elephant.

The possibilities of its reuse are limited, given its position in an area with high bulk traffic, and vehicles which are cumbersome to manoeuvre. In addition, the current office space of Bulk Connections is distant from this building, being situated on the wharfside, and in view of the ships, as opposed to being situated on the 'wrong side of the tracks. Whilst this building is protected in terms of the 60 year clause of the KwaZulu-Natal Heritage Act no 4 of 2008, the practicality of its retention is slim. Not only is it obscurely situated, but it has been in a disheveled state for a number of years, since the transformers were removed some two decades ago.

It is the opinion of the author that this structure would be problematic to retain from an economic and practical point of view, and suggests that demolition could be an option.

6. References

Harbour Department Files- Provincial Archives Repository, Pietermaritzburg
 II/I/81 HDE257B/1905
 II/I/106 HDE 1325/1906
 II/I/145 HDE 761/1910 and HDE875/1910
 II/I/104 HDE 1159/1906
 II/I/122 HDE53/1908

Architectural floor plan of the Wests building, showing proposed alterations. The plan includes rooms such as the Office, Mess Room, Ablution, Locker Room, and Non-Skid Grand Floor. It details the removal of existing walls, sinks, and windows, and the installation of new features like vinyl tile floors, a frytop grille, and a new mess hall. Dimensions and structural notes are provided throughout the drawing.

NOTES: NUMBERS CATERED FOR FOR SITE PLAN SEE DWG. DH.CC. P. 342.

DATE: 0038/08

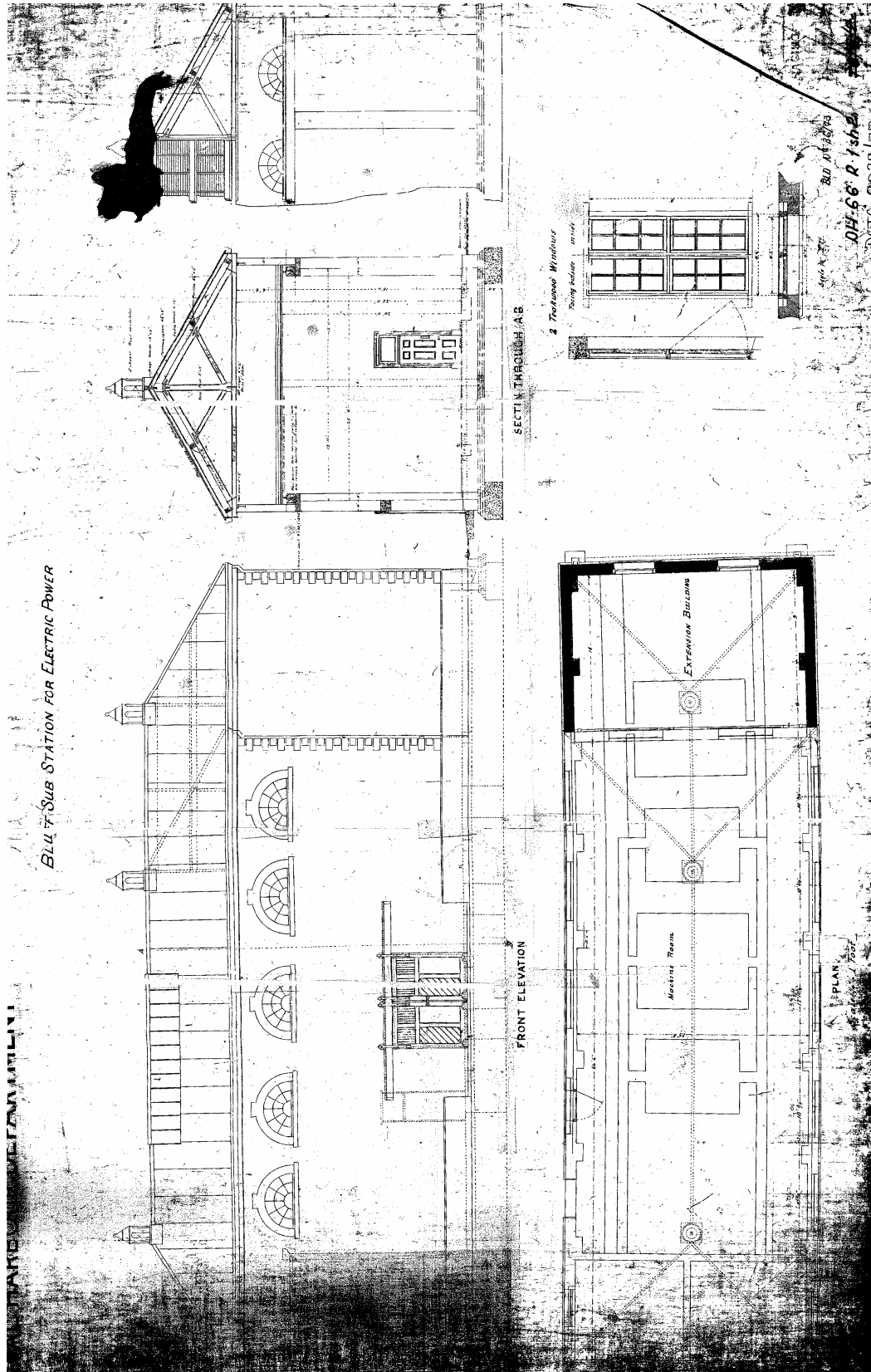
WESTS
 PROP. ALTERATIONS TO BUILD. B6/43 TO PROVIDE MESS & ABLUTION FACILITIES FOR WHITE ELECTRICAL STAFF.
 DH.66.P.1 sh 8

SCALE: 1:100
 S.A.R.
 NATAL SYSTEM
 DURBAN HARBOUR

DATE: _____	DATE: _____	DATE: _____	DATE: _____
SUPERINTENDENT COMMERCIAL	ASST CHIEF SUPT STAFF	SYSTEM HEALTH INSPECTOR	SYSTEM ELECTRICAL ENGINEER
PORT DIRECTOR	DISTRICT HARBOUR ENGINEER	ASST. SYSTEM HARBOUR ENGINEER	ASST. SYSTEM HARBOUR ENGINEER

DATE: _____
 SYSTEM MANAGER
 PORT DIRECTOR
 DISTRICT HARBOUR ENGINEER
 ASST. SYSTEM HARBOUR ENGINEER
 ASST. SYSTEM HARBOUR ENGINEER

Appendix II Alteration drawings to original structure (circa 1943)



Appendix III Proposed planning drawing (2009)

